A Strategy for Improving Joint Interoperability

GIG Key Interface Profile (KIP) Management

by

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for

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Brief Outline

- Purpose
- Rationale
- Criteria for selecting KIPs
- Background
- Management Process
- Status of KIP pilots
- Preliminary conclusions
- Issues

Purpose

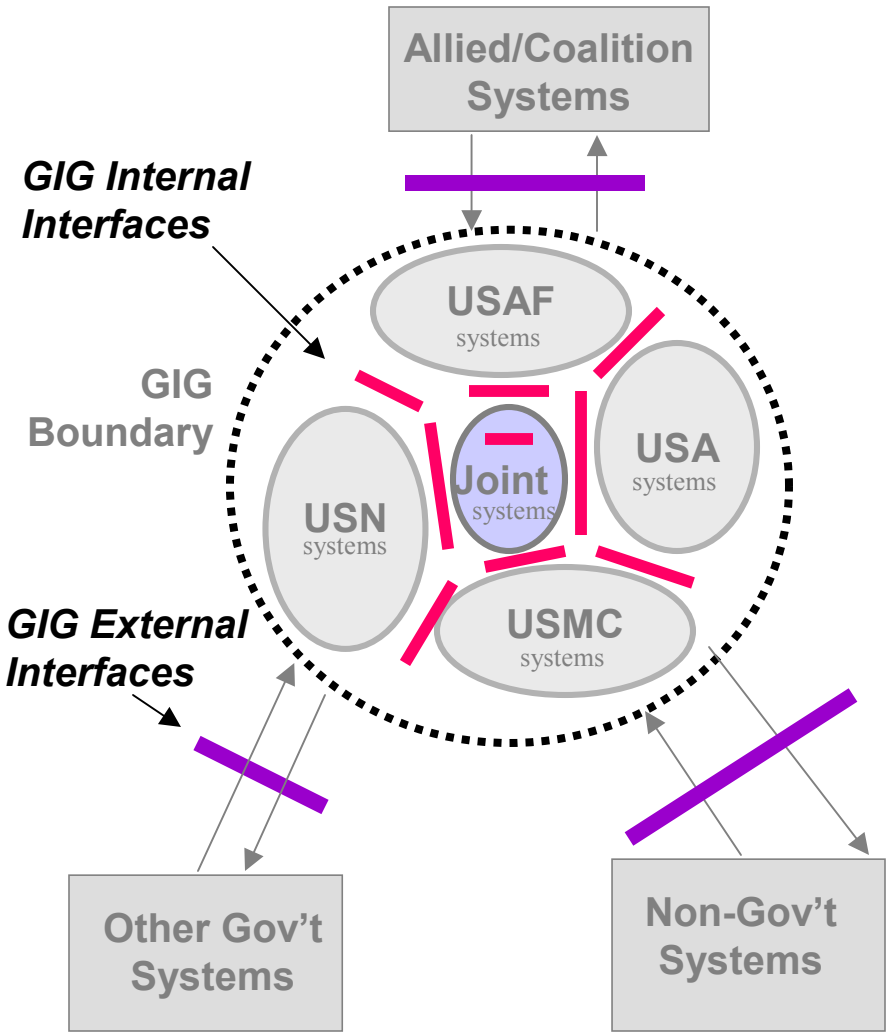
To summarize the Key Interface Profile (KIP) project, a GAIP sponsored initiative to determine feasibility and utility of formal management of KIPs as strategy for improving joint interoperability.

KIP Criteria

What makes a interface point key?

- ✓ Interface is **mission critical** (systems must be interoperable at that interface or endangers ability to accomplish mission).
- ✓ Interface **spans organizational boundaries** (e.g. multi-service, joint, or multinational).
- ✓ **Difficult or complex** to manage informally.
- ✓ Impacts **multiple acquisition programs,** usually more than two (e.g. network points of presence, many to many, or one to many interfaces).
- ✓ Vulnerable or important from **security** perspective.

Rationale for KIP Management



- ***Interface-oriented approach is:***

- **More manageable.** Because not attempting to dictate internals of every system; easier to supervise, maintain, understand, & enforce. Focused on seams, where issues most likely to arise.

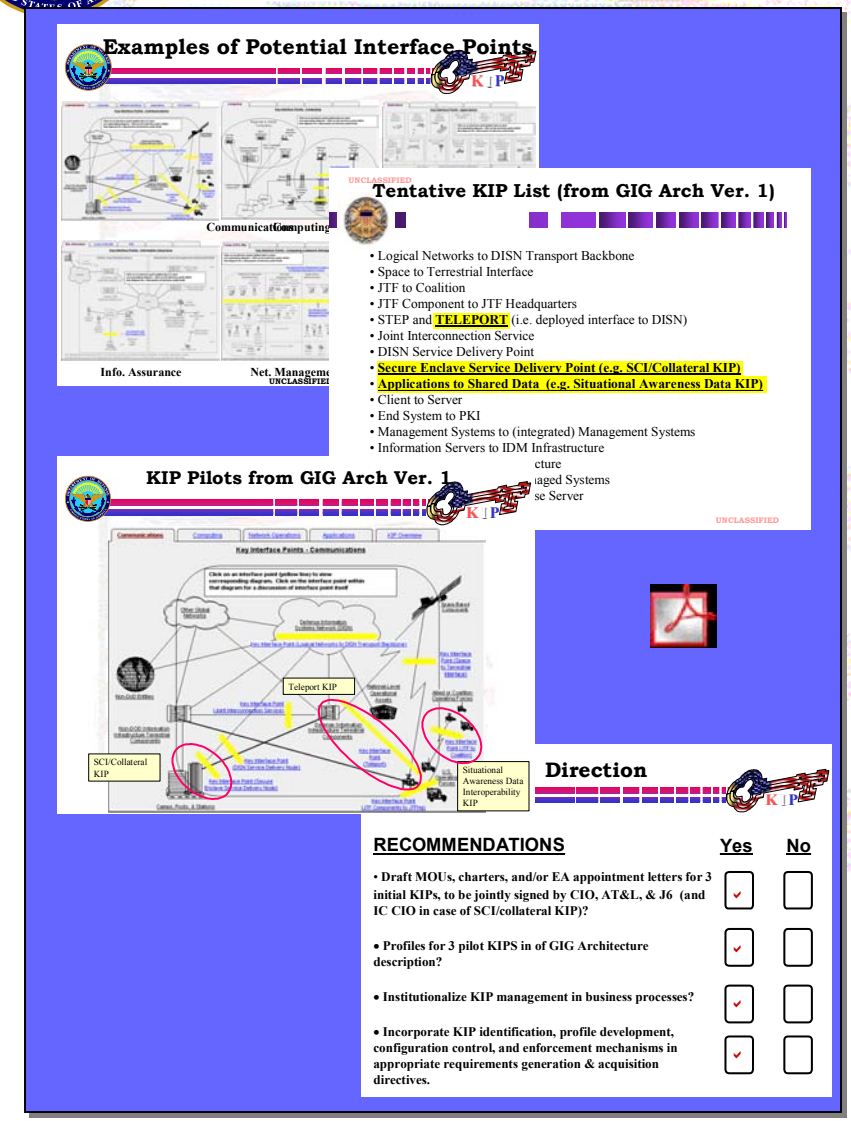
- **Less reliant on one-size-fits-all solutions.** Because interfaces have smaller scope it is easier to gain consensus on a set of standards tight enough to ensure interoperability.

- **More legacy-tolerant.** Does not always assume or require changes to internals of participating systems.

- **Less brittle (more adaptable) in face of change.** Does not encourage assumptions about (coupling to) internals of "foreign" systems. So system owners can change internal implementations with less fear of unintended consequences for others, so long as interfaces remain compliant.

- **Easier to evolve.** So long as they remain compliant with relatively stable interface, systems free to incorporate & adapt to new technology & requirements.

Background



- Seventeen key interfaces were identified in GIG architecture V1.0.
- On 12 July 2001, J6 recommended that the 17 KIPs be formally managed.
- GAIP launched three pilots to demonstrate feasibility of concept and to explore management approaches.
  - Ops/Intel.
  - Teleport.
  - Situation Awareness.
- On 16 Oct 2001, DoD CIO tasked DISA with developing technical views (TV)s for the 17 key interfaces and supporting the effort.
- On 22 Jan 2002, given results of GAWG/GAIP staffing, began steps to institutionalize KIP concepts in the department.

Status Reports

1. Management Process & Support
2. SCI to Collateral KIP Pilot
3. Situational Awareness (SA)KIP Pilot
4. TELEPORT KIP Pilot

Management Process & Support

Status

- Developed Management Process.
- Developed Key Interface Profile.
- Prioritized the seventeen KIPs.
- Testing process with pilot projects.
- KIP concepts added to DoD Arch Framework.
- Formalizing supporting relationship with DISA.
- Issues: What impact will operating in a NCWO environment have on the KIP concept, process and profile?

Management Process & Support

GIG Arch Mgmt Structure | **User/Requirements/Acquisition Communities**

GAIWG/ GAIP

Identify Key Interface requiring formal management

Project Management Group (PMG)
Mgt of the Process

OV/SV KIP description in context of integrated architecture

JTA & other source documents

KIPWGs

Develop interface docs (small team design, KIPWG approve)

Documented Agreements designating KIP WG lead
•Examples: EA appointment, Charter, or MOA
Prepare Appointment memo or letter

Key Interface Profile To include:

- *Refined OV/SV*
- *ICD per MIL-HDBK-61A*
- *Stds profile/TV-1 & 2 & TV-1 & 2 /SV bridge*
- *Recommended Conf Mgt Plan (CMP)*
- *Procedures for Stds Conformance & interop testing using reference Implementations*
- *Engineering Management Plan*

GAIWG/ GAIP

Review & Approve Incorporate in GIG Architecture

Approval:
•Feasible for Implementation Or Testing
•Fit for inclusion in GIG Arch

Refined OV/SV, Stds Profile/TV-1 & 2,TV-1 & 2/SV bridge, ICD

Key Interface Profile

Use Architecture in planning, programming and acquisition

Developers build or adapt to ICDs & Stds Profile/TVs as specified

GIG* Architecture

Long term configuration management coordinated between both communities

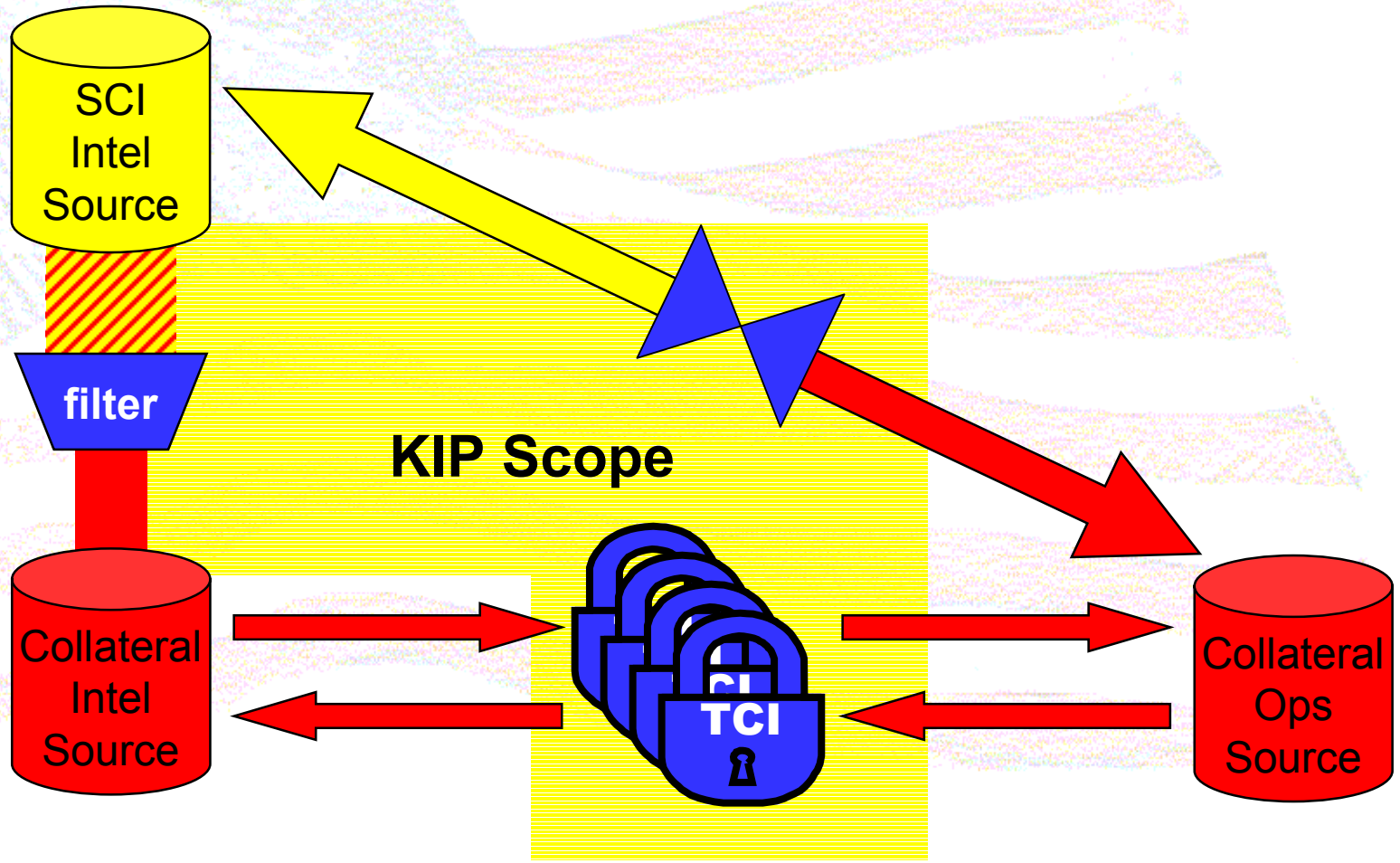
**KIPs Synchronized with GIG Arch Version*

ICD = Interface Control Document
KIPWG = KIP Interface Control Work Group
OV = Operational View
SV = System View
TV = Technical View

SCI to Collateral KIP Pilot

- Established DIA CIO as lead.
- Compiling initial KIP Profile documentation.
- Proceeding according to ICSIS Implementation schedule.

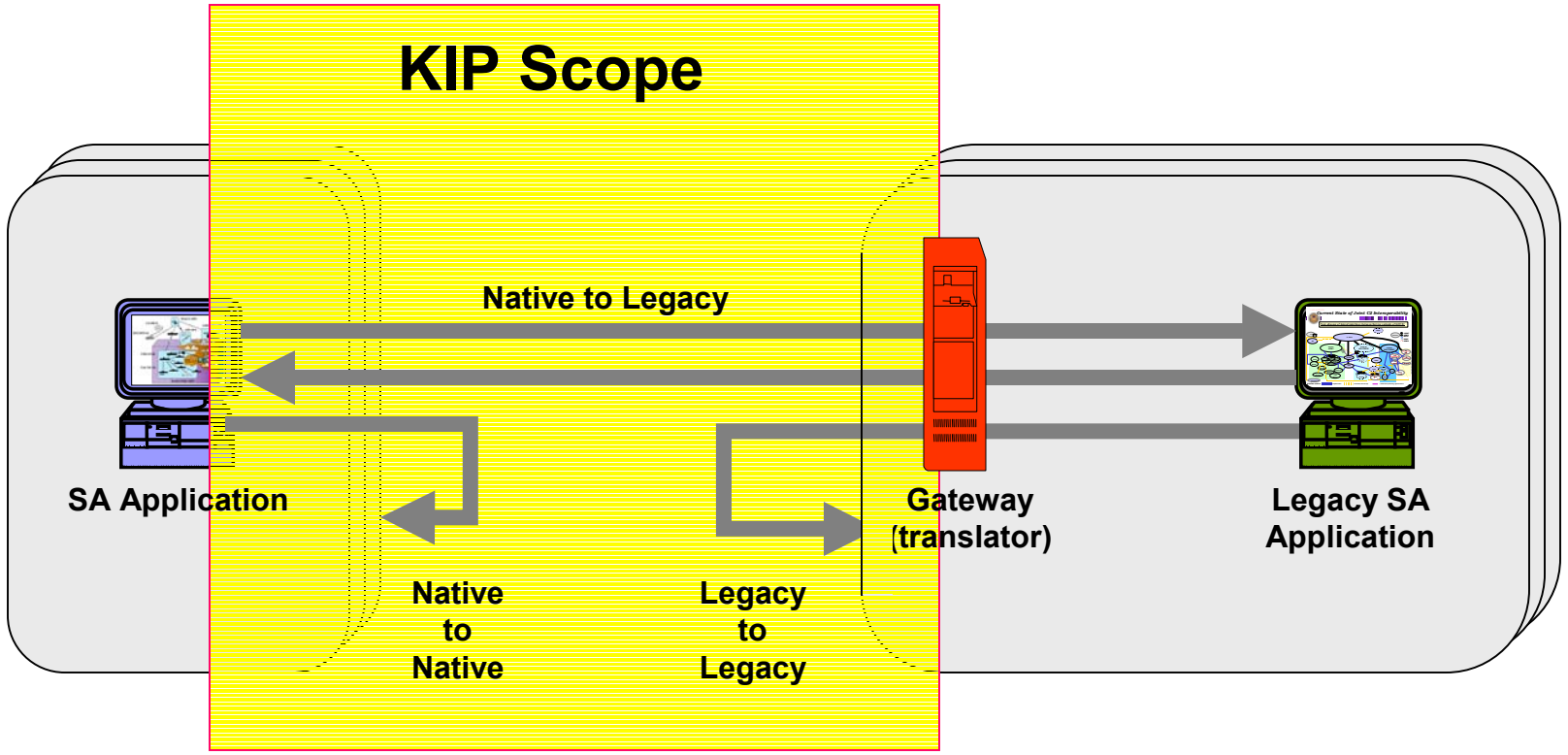
SCI to Collateral KIP Pilot



SA KIP Pilot

- J6 drafted project plan.
- MCEB approved concept.
- Army G6 drafted ICD.
- FY03 funding fell through.
- FY04 POM Submission being developed
- In FY03:
  - Reaffirm commitments.
  - Reconcile view points.
  - Executive Agent Memo & Charter.
  - Establish new timeline.

SA KIP Pilot



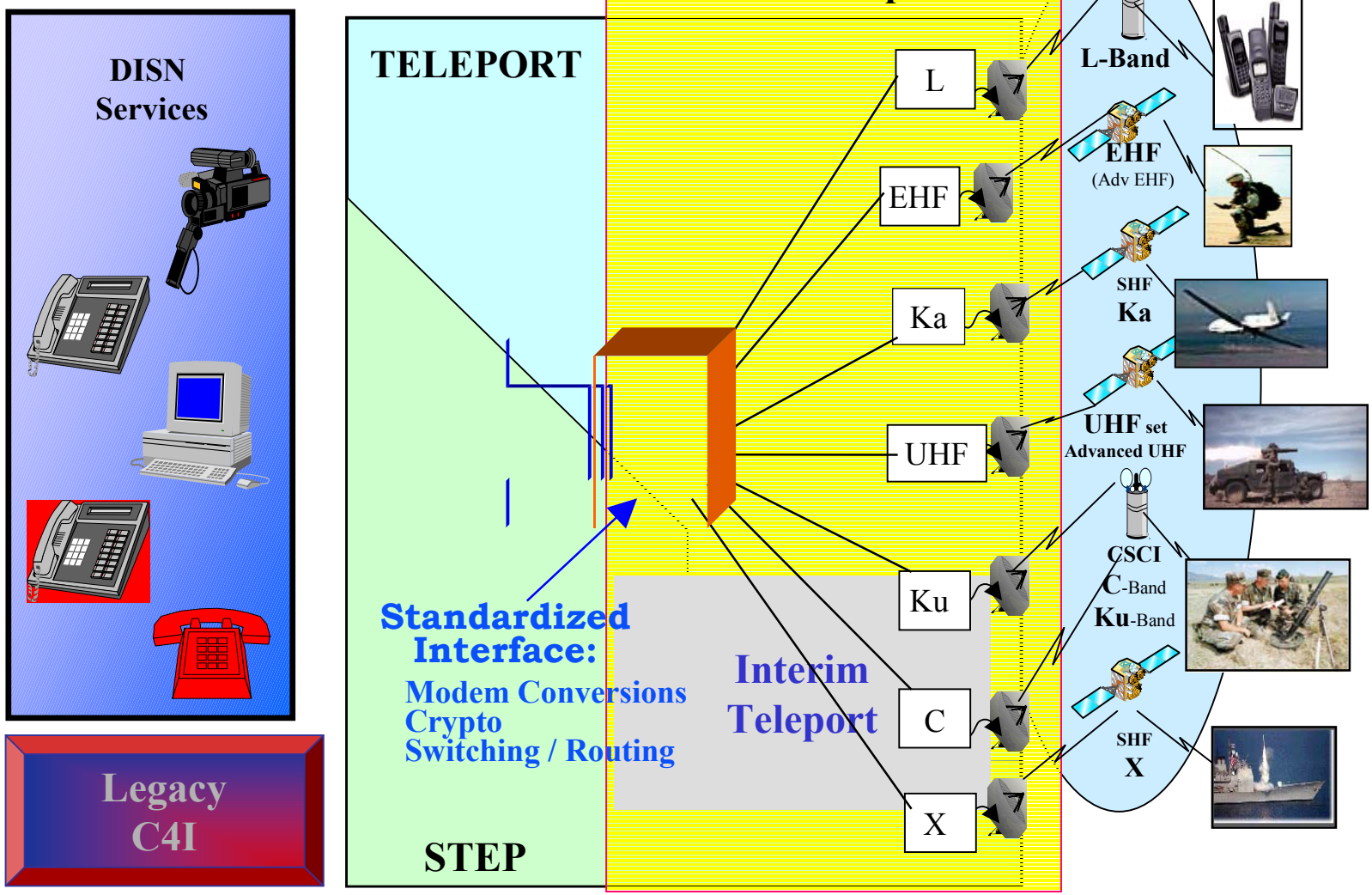
← Application A Side

Application B Side →

TELEPORT KIP Pilot

- Established DISA as Lead.
- In June 2002, completed and distributed draft ICD.
- Completed Generation 1 KIP on 31 October 2002.

TELEPORT KIP Pilot



Conclusions

Preliminary

- KIPs can be managed at the Enterprise Level.
- Cost of a KIP $75K - $150K.
- Steps taken to institutionalize KIP management process and profile should be continued.

Questions?

SCI to Collateral KIP Pilot